

SW Engineering CSC648/848 Section 01 Fall 2017  
Bay Real Estate, Team 12 Local, Milestone 2  
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Revision	Revision Notes

## **Data Definitions V2**

1. Buyer
  - a. Name
  - b. Phone Number
  - c. Email
  - d. Favorites List
    - i. An array of keys that map to listings in the Listing Table
  - e. Is Registered (boolean)
2. Seller
  - a. Name
  - b. Phone Number
  - c. Email
  - d. Profession
  - e. Id (Drivers License or Real Estate License)
3. Listing
  - a. Title
  - b. Address
  - c. Description
  - d. Price
  - e. Photo
    - i. Jpg or Png format, with a max size of 4MB
  - f. Bedrooms
  - g. Bathrooms
  - h. Square footage
4. Admin
  - a. Name
  - b. Email

## Functional Requirements V2

### Priority 1 Specifications:

1. The website shall be scalable.
2. **All Users** shall be able to **search** listings.
  - 2.1. **All Users** shall be able to filter their **search** listings
3. **All Users** shall be able to **browse** listings.
4. **All Users** shall **sign in** to the website in order to access seller contact information.
5. **Registered Buyers** shall be prompted to register their **name**, **phone number**, and optional **email**.
6. **Registered Sellers** shall be prompted to register their **name**, **email**, **phone number**, and **license** number for verification.
7. **Registered Sellers** shall be able to list and edit property information such as **description of house**, **price**, and **photos**.
8. **Administrators** shall be able to remove outdated content.
9. **Administrators** shall be able to edit or remove inappropriate content.
10. **Administrators** shall be able to remove accounts proven to be fraudulent.

### Priority 2 Specifications:

11. The website shall display featured listings and/or new listings.
12. **All Users** shall be redirected to the home page by clicking the website logo.
13. **Registered Buyers** shall be able to access realtor contact information.
14. **Registered Buyers** shall have a **dashboard** to easily message **Registered Sellers**.
15. **Registered Buyers** shall have the option leave contact information public or private.
16. **Registered Sellers** shall have a **view listings history**.
17. **Registered Sellers** shall have a **dashboard** to easily message potential buyers.
18. **Registered Sellers** shall have a **dashboard** to manage their own sales.

### Priority 3 Specifications:

19. Clicking on a picture shall zoom-in on it.
20. **Registered Buyers** shall be able to add and remove listings to their **favorites**.
21. **Registered Buyers** shall have a **view listings history**.
22. **Registered Sellers** shall be able to declare what type of **profession** they are - realtor/landlord/real estate agent/etc.
23. The website shall display a **Registered Seller's** recently sold houses

## UI Mockups and Storyboards

**1) Unregistered Buyer:** Tim is an unregistered **buyer** interested in purchasing a house. Upon opening our website, he can immediately search and browse our page to look for any houses that may interest him. While browsing, Tim stumbles upon an interesting house and can view the **square footage**, number of **bathrooms**, **bedrooms**, **address**, and a **photo** of the house. Tim proceeds to click “contact seller” and is then prompted to sign-in to our website. While registered **buyers** have the ability to add **listings** to a **favorites** list, an unregistered **buyer** must register before he or she can use the **favorites** list.

## Main page

Logo	About	LOG IN	SIGN UP
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Address, zip, city, state

Search

\$ price

☐ lower 100,000

☐ 100,000 ~ 500,000

☐ 500,000 ~ 700,000

☐ 700,000 ~ 1,000,000

☐ 1,000,000 ~ 1,500,000

☐ above 1,500,000

☐ bedrooms

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ above 5

3 bed | 2 bath | \$

Home 1

5 bed | 3 bath | \$

Home 3

1 bed | 1 bath | \$

Home 5

3 bed | 2 bath | \$

Home 2

2 bed | 1 bath | \$

Home 4

1.5 bed | 1 bath | \$

Home 6

sign up page

New User

1	First Name	2	Last Name
4	Email		
5	password		
6	Certification Number		
7	<input type="checkbox"/> I Accept terms & conditions		8 Cancel 9 Sign up!

## LOGIN Modal

X

login as:

☐ seller

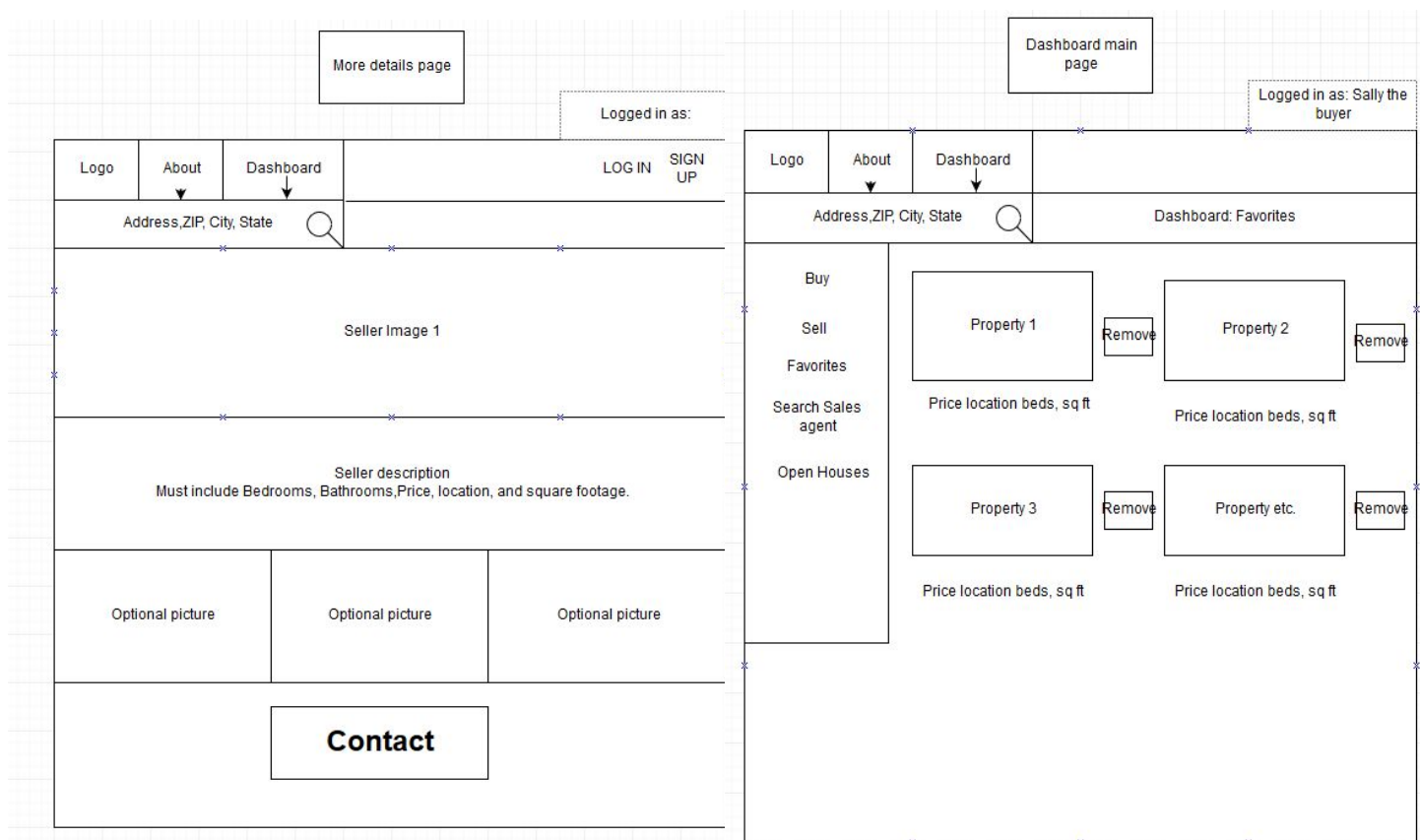
☐ buyer

If you don't have a count, please click

logo	about	SIGN OUT	
🏠 favourite list 🏠			
<div>filter</div> <div># price</div> <div><input type="checkbox"/> 100,000 ~ 150,000</div> <div><input type="checkbox"/> 150,000 ~ 300,000</div> <div><input type="checkbox"/> 300,000 ~ 500,000</div> <div><input type="checkbox"/> 500,000 ~ 1,000,000</div> <div># bedrooms</div> <div><input type="checkbox"/> 1</div> <div><input type="checkbox"/> 2</div> <div><input type="checkbox"/> 3</div> <div><input type="checkbox"/> 4</div> <div><input type="checkbox"/> 5</div> <div><input type="checkbox"/> &gt;5</div>		<div>3 bed   2 bath   #</div> <div>IMAGE1</div> <div>description for house1</div> <div>~~~~~</div> <div>~~~~~</div> <div>~~~~~</div> <div>1 bed   1 bath   #</div> <div>IMAGE2</div> <div>description for house2</div> <div>~~~~~</div> <div>~~~~~</div> <div>~~~~~</div>	



**2) Registered Buyer:** Sally is a registered **buyer** on our website. She can search and browse our page to look for any house may interest her. For example, not only can she see the basic information, such as the **address** of the house, and the contact information of the user, but she can also view a detailed **description** and features of that house. Registered **buyers** will need to provide more personal information to sellers. They have to register with their **phone number** and **email address** as well. Even more, they need to provide their **name**, so the **buyers** have more reliable contact information, making a deal or arrangement between the **buyer** and **seller** possible. Besides these features, registered **buyers** get a **favorites** list. This means Sally can review the houses she has seen before, and also add new houses into her **favorites** list.



**3) Registered Seller:** Morgan is a registered **seller**. She can search and browse our page to look for any customers that may be interested in a house offered by her. For example, a registered **seller** can see the information that all other users on this website can see, such as the **address** of the house, the contact information of the user, a detailed **description**, and features of that house. Registered **sellers**, like Morgan will need to provide extra personal information upon registering. For example, Morgan will have to provide her **phone number**, **email address**, and a **license number**. The most important feature for the **sellers** is that they are allowed to post **listings**. A **listing** provides the information about the **address** of the house, **price**, general **description**, **pictures** of the house, and more, which unregistered and registered **buyers** can then view.

Hand-drawn sketch of a "create listing" form. The form includes the following elements:

- Navigation links: logo, about
- Title: create listing
- Section: Images of property \*
- Field: image files upload
- Field: Address \*
- Field: price \*
- Field: Number of bedrooms \*
- Field: Square feet \*
- Field: Number of bathrooms \*
- Field: Full description (optional)
- Buttons: cancel, post
- Note: \* mandatory

Digital wireframe of a user dashboard for a registered seller named Morgan. The dashboard includes the following elements:

- Header: Dashboard main page, Logged in as: Morgan the seller
- Navigation: Logo, About, Dashboard
- Search: Address, ZIP, City, State
- Section: Dashboard: Sell
- Sidebar: Buy, Sell, Favorites, Search Sales agent, Open Houses
- Main Content:
  - Create new listing
  - Property 1, Property 2, Property 3, Property etc.
  - Price location beds, sq ft

4) **Admin:** Bob is an **admin** of this website. He can view **listings** and browse, like unregistered **buyers** or **sellers** of our website. However, Bob doesn't need the features that unregistered **buyers**, registered **buyers**, and registered **sellers** have. The **admin** has the power to manage the website. For instance, Bob can delete contents that are inappropriate to show, and block users that commit illegal or profane acts on our website. The **admin**, like Bob, should have contact information on our website to ensure people

Search (from admin perspective) Hidden buttons will appear.

Logged in as: Bob the admin

LogoAboutDashboard

Address, ZIP, City, State

Searching for "San"

Filter by:

imgRemove

Price, Location Beds, Baths, ft

imgRemove

Price, Location Beds, Baths, ft

imgRemove

Price, Location Beds, Baths, ft

imgRemove

Price, Location Beds, Baths, ft

## High Level Architecture and Database Organization

This section will describe the tools, technologies, frameworks, and APIs that will be used during the project life cycle, and how these technologies will come together to build the application.

### Environment/Runtime

#### Amazon Web Services:

- Our web will be hosted on Amazon Cloud, which offers security cloud storage, file backup, file sharing etc.

#### My SQL:

- The database will be supported by MySQL, and will provide the means of storing user, sellers, and listings information.
- MySQL is an open source relational database management system (RDBMS) based on Structured Query Language. MySQL runs virtually on all platforms, including Linux, UNIX, and Windows. (<http://searchoracle.techtarget.com/definition/MySQL>)

#### Linux:

- Application will be deployed using on Ubuntu Linux System
- Linux platform will be hosted on Amazon Web Services(AWS)
- Unix-like, open source and community-developed operating system for computers, servers, mainframes.

#### Node.js:

- a platform built on Chrome's JavaScript. **Node.js** uses an event-driven, non-blocking I/O model that makes it lightweight and efficient.  
([https://www.tutorialspoint.com/nodejs/nodejs\\_introduction.htm](https://www.tutorialspoint.com/nodejs/nodejs_introduction.htm) )

### APIs and Frameworks

#### Express:

- Is a web application framework for Node.js.
- It helps to organize the application's routing and use of many templating solutions.

#### jQuery:

- a javascript library. It manipulates HTML to create movement and animation on the webpage.
- Provides wrappers for many to a lot of existing function to increase the production rate and ease of implementation.

- jQuery simplifies the HTML's client-side scripting, thus simplifying Web 2.0 applications development.

**BootStrap:**

- a free collection of tools for creating a websites and web applications. It contains HTML and CSS-based design templates.

**Chrome Developer Tools:**

- a set of debugging tools built in Google Chrome.
- DevTools provide deep access into internals of the browsers and web application.

**Google Maps:**

- The Google Maps API allow the embedding of Google Maps onto webpage of outside of developer, using simple JavaScript interface.

**Miscellanies:****Github:**

- a web-based Git or version control repository and Internet hosting service
- Github provides a platform to share an entire project as repo among a team or to the whole world.

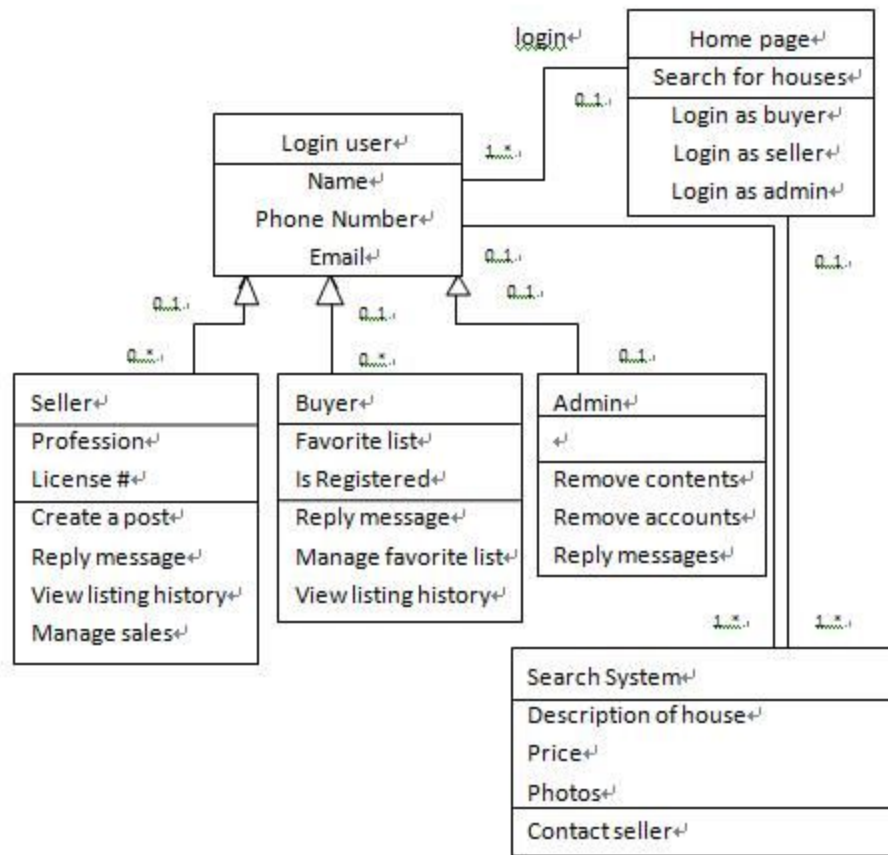
**Browsers:**

- Google Chrome: Version 61.0.3163.100 (Official Build) (64-bit)
- Safari: Version 11.0 (11604.1.38.1.7)

**Data Organization****Image Format/Size:**

- Format GIF, JPG and PNG will be the accepted image formats for our website. The size of our website sets at 1366 x 768 ppi.
- The thumbnail will be saved as images of the same format as original.
- Image metadata- information regarding the filename, the size, the resolution, the upload date, the thumbnail path, the filename will be stored in the file system. An advantage of file system approach is the efficiency and performance of data retrieval from database.

## High Level UML Diagrams



## **Project Risks**

There is currently a skill risk involved in the project. The Front-End and Back-End teams are both inexperienced with web development, databases, and Github, however, they are working hard and fast to become proficient in these areas. We plan on solving this risk by doing tutorials and spending more time coding with Node, databases, and basic web development frameworks.

## **Teamwork Risks**

An important teamwork risk would be the mutual agreement between the front-end and the back end members. Although the front-end and back-end work independently, there might be situations where we would work together. Some of the decisions made by front-end team may not agree with back-end team. To solve this risk, backend team designs and APIs using MVC approach. Then frontend team display the data without interfering with backend.

## **Content Risks**

Our website allows the seller user to post housing pictures and provide accurate description about the housing information. Some spam users may also go to our site and take a advantage of it. They may post inaccurate images and provide invalid information. To solve this problem, our Admin site may delete the content.